UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,559	01/26/2007	Franck Marandon	289351US0PCT	8180

22850 7590 06/09/2011

OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
WIESE, NOAH S	
ART UNIT	PAPER NUMBER
1731	

NOTIFICATION DATE	DELIVERY MODE
06/09/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No.	Applicant(s)	
	10/577,559	MARANDON, FRANCK	
	Examiner	Art Unit	
	NOAH WIESE	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 March 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15-18,22,23,25-31,33-39 and 41-63* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15-18,22,23,25-31,33-39,41-51 and 55-63* is/are rejected.

7)☒ Claim(s) *52-54* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Status of Application

1. Acknowledgement is made of amendments filed 03/24/2011. Upon entering the amendments, the claims 52-63 are added, claims 24, 32, and 40 are canceled, and claims 15-16 and 18 are amended.

2. The claims 15-18, 22-23, 25-31, 33-39, and 41-63 are pending and presented for the examination.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 15-18 and 22-23, 25-31, 33-39, and 41-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forker, Jr. et al (US 4483700) in view of Craver (US 4817585).

Regarding **claims 15-16, 25, 27, 33, 35, 41, and 43**, Forker, Jr. et al (hereinafter "Forker") teaches a chemically strengthened glass that contains Na^+ and/or K^+ ions (see Abstract). The ions are present in a gradient over exchange depths greater than 100 μm (see Table 1, wherein DOL [depth of layer] of 10.7 mils is equivalent to 271.78 μm). The surface compression (surface stress of these samples is at least 30.5 kg/mm^2 (299.1 MPa). The chemically strengthened glasses of Table 1 are prepared using a starting glass having a strain point of 581°C (see column 5, lines 50-51). Forker does not specify the interdiffusion coefficients of the glasses at 490°C. However, because the Forker glasses are compositionally and structurally equivalent to the glasses of the instant claims and because they have equivalent strain points (which are compositionally dependent properties in much the same way as interdiffusion coefficients), the glasses would necessarily have interdiffusion coefficients at the temperature that would meet the limitations of the claims. Thus, all of the limitations of instant claims 15-16, 25, 27, 33, 35, 41, and 43 pertaining to the glass pane are met by Forker.

Claims 15-16, 25, 27, 33, 35, 41, and 43 differ from Forker because Forker does not specify a use for the glass pane, and thus does not teach a cooker or oven comprising a door comprising said plane. However, it would have been obvious to one of ordinary skill in the art to modify Forker in view of Craver in order to use the Forker glass pane in a door for an oven and cooker because Craver teaches that panes in such doors are advantageously made from strengthened glass (see Abstract and column 5, lines 30-34). Said panes would be positioned in direct contact with a hot

atmosphere because the atmosphere between the inner and outer panes in the window is not a vacuum, and thus would also be heated. Said atmosphere is therefore "hot".

One would have been motivated to use the Forker glasses in such an application because doing so would provide a commercially viable use for the Forker glasses; Forker does not teach any specific applications for the glasses of the patent, thus motivating one to look elsewhere for uses of chemically strengthened glass panels. One would have expected reasonable success using the Forker glasses in an oven door because Craver specifically teaches that tempered glasses are preferred in said doors. Therefore, claims 15-16, 25, 27, 33, 35, 41, and 43 are obvious and not patentably distinct over the prior art of record.

Regarding **claims 17-18**, Craver teaches that the oven of which the door is a part can be a wood burning stove, which is a pyrolytic oven.

Regarding **claims 22-23, 30-31, and 38-39**, as discussed above, Forker teaches chemically strengthened glasses meeting the compositional and property limitations of instant claims 15-16. Forker does not specify the interdiffusion coefficients of the glasses at 400℃ and 490℃. However, because the Forker glasses are compositionally and structurally equivalent to the glasses of claims 22-23, 30-31, and 38-39, and because they have equivalent strain points (which are compositionally dependent properties in much the same way as interdiffusion coefficients), the glasses would inherently have interdiffusion coefficients at the two temperatures that would meet the limitations of the claims. Thus, all of the limitations of instant claims 22-23, 30-31, and 38-39 are met by the teachings of Forker.

Regarding **claims 26, 34, and 42**, as discussed above, the Forker glasses contain Na^+ and/or K^+ ions.

Regarding **claims 28, 36 and 44**, Forker teaches that the alkali ion-containing glasses are made into panels (panes) having thicknesses of 0.085" and 0.105" (see Table 1). These thicknesses are equivalent to 2.159 mm and 2.667 mm.

Regarding **claims 29, 37, and 45**, the claim differs from Forker as applied above because no specific example is taught were the glass is made into a pane having a thickness of 2.8-5 mm. However, as also discussed above, thicknesses of 2.667 mm are taught. The thickness of a glass pane depends on its intended use and is thus a result effective variable. One of ordinary skill in the art would have known and understood techniques for making the Forker glasses into panes of a desired thickness, and would have had motivation for doing so from the need for a pane having a thickness between 2.8 and 5 mm. Thus, a pane having a thickness of 0.133 mm greater than the example taught by Forker would be obvious to one of ordinary skill from the Forker teachings. Claim 11 is therefore not patentably distinct over the prior art of record.

Regarding **claims 46-48**, as discussed above, Craver teaches inner and outer panes in the oven door. As also discussed above, obvious modification of Forker would lead to a glass containing alkali ions positioned to be in contact with a hot atmosphere. Therefore, the further limitations of the instant claims are taught by Forker in view of Craver, and the new claims are obvious and not patentably distinct over the prior art of record.

6. Claims 15-16, 18, and 22-23, 25-31, 33-39, and 41-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forker, Jr. et al (US 4483700) in view of Plumat et al (US 4048978).

Regarding **claims 15-16, 18, 25, 27, 33, 35, 41, and 43**, Forker, Jr. et al (hereinafter "Forker") teaches a chemically strengthened glass that contains Na^+ and/or K^+ ions (see Abstract). The ions are present in a gradient over exchange depths greater than 100 μm (see Table 1, wherein DOL [depth of layer] of 10.7 mils is equivalent to 271.78 μm). The surface compression (surface stress of these samples is at least 30.5 kg/mm^2 (299.1 MPa). The chemically strengthened glasses of Table 1 are prepared using a starting glass having a strain point of 581°C (see column 5, lines 50-51). Forker does not specify the interdiffusion coefficients of the glasses at 490°C. However, because the Forker glasses are compositionally and structurally equivalent to the glasses of the instant claims and because they have equivalent strain points (which are compositionally dependent properties in much the same way as interdiffusion coefficients), the glasses would necessarily have interdiffusion coefficients at the temperature that would meet the limitations of the claims. Thus, all of the limitations of instant claims 15-16, 18, 25, 27, 33, 35, 41, and 43 pertaining to the glass pane are met by Forker.

Claims 15-16, 18, 25, 27, 33, 35, 41, and 43 differ from Forker because Forker does not specify a use for the glass pane, and thus does not teach a cooker or oven comprising a door comprising said plane. However, it would have been obvious to one of ordinary skill in the art to modify Forker in view of Plumat et al in order to use the

Forker glass in an oven door window because Plumat teaches that this is an advantageous use for chemically tempered glasses such as those taught by Forker. Plumat teaches a heat insulating screen used in an oven door comprising a chemically tempered pane of glass that separates the hot internal atmosphere from the ambient room atmosphere (see Figures 1 and 5 and column 5, lines 56-60). One would have been motivated to use the Forker glasses in such an application because doing so would provide a commercially viable use for the Forker glasses; Forker does not teach any specific applications for the glasses of the patent, thus motivating one to look elsewhere for uses of chemically strengthened glass panels. One would have expected reasonable success using the Forker glasses in an oven door because Craver specifically teaches that tempered glasses are preferred in said doors. Therefore, claims 15-16, 18, 25, 27, 33, 35, 41, and 43 are obvious and not patentably distinct over the prior art of record.

Regarding **claims 22-23, 30-31, and 38-39**, as discussed above, Forker teaches chemically strengthened glasses meeting the compositional and property limitations of instant claims 15-16. Forker does not specify the interdiffusion coefficients of the glasses at 400°C and 490°C. However, because the Forker glasses are compositionally and structurally equivalent to the glasses of claims 22-23, 30-31, and 38-39, and because they have equivalent strain points (which are compositionally dependent properties in much the same way as interdiffusion coefficients), the glasses would inherently have interdiffusion coefficients at the two temperatures that would meet the

limitations of the claims. Thus, all of the limitations of instant claims 22-23, 30-31, and 38-39 are met by the teachings of Forker.

Regarding **claims 26, 34, and 42**, as discussed above, the Forker glasses contain Na^+ and/or K^+ ions.

Regarding **claims 28, 36 and 44**, Forker teaches that the alkali ion-containing glasses are made into panels (panes) having thicknesses of 0.085" and 0.105" (see Table 1). These thicknesses are equivalent to 2.159 mm and 2.667 mm.

Regarding **claims 29, 37, and 45**, the claim differs from Forker as applied above because no specific example is taught were the glass is made into a pane having a thickness of 2.8-5 mm. However, as also discussed above, thicknesses of 2.667 mm are taught. The thickness of a glass pane depends on its intended use and is thus a result effective variable. One of ordinary skill in the art would have known and understood techniques for making the Forker glasses into panes of a desired thickness, and would have had motivation for doing so from the need for a pane having a thickness between 2.8 and 5 mm. Thus, a pane having a thickness of 0.133 mm greater than the example taught by Forker would be obvious to one of ordinary skill from the Forker teachings. Claim 11 is therefore not patentably distinct over the prior art of record.

Regarding **claims 46-48**, Plumat teaches an oven door window comprising two pane of glass that are each chemically tempered (see column 6, lines 53-66). Thus, Plumat teaches an oven/stove door wherein the ion-containing glass pane is in direct contact with the hot atmosphere. The further limitations of the instant claims are thus

taught by Forker in view of Plumat, and the new claims 46-48 are obvious and not patentably distinct over the prior art of record.

7. Claims 49-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forker, Jr. et al (US 4483700) in view of Plumat et al (US 4048978) and in further view of Gerhardinger (US 6024084).

Regarding **claims 49-51**, the claims differ from Forker in view of Plumat as applied above because Plumat does not teach an exemplary embodiments wherein the internal temperature of the oven (the temperature of the atmosphere in contact with one surface of the glass) is 300-530°C. However, it would have been obvious to one of ordinary skill in the art to modify Forker in further view of Gerhardinger et al in order to use the oven taught by Forker in view of Plumat in such a way as to have an internal temperature falling within the claimed range. Gerhardinger teaches an oven having a door comprising a tempered glass panel, and teaches that such ovens typically reach temperatures of up to 482°C during self-cleaning cycles (see column 1, lines 16-22). Thus, an obvious use of the oven taught by Forker in view of Plumat would be to heat it to this temperature. When used in this obvious manner, the Forker glass pane would separate one atmosphere at a temperature falling within the instantly claimed range from a room temperature atmosphere, which is greater than 50°C cooler. Therefore, claims 49-51 are obvious and not patentably distinct over the prior art of record.

8. Claims 55-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forker, Jr. et al (US 4483700).

Regarding **claim 55**, Forker, Jr. et al (hereinafter "Forker") teaches a chemically strengthened glass that contains Na^+ and/or K^+ ions (see Abstract). The ions are present in a gradient over exchange depths greater than 100 μm (see Table 1, wherein DOL [depth of layer] of 10.7 mils is equivalent to 271.78 μm). The surface compression (surface stress of these samples is at least 30.5 kg/mm^2 (299.1 MPa). The chemically strengthened glasses of Table 1 are prepared using a starting glass having a strain point of 581°C (see column 5, lines 50-51). Forker does not specify the interdiffusion coefficient of the glasses at 490°C. However, because the Forker glasses are compositionally and structurally equivalent to the glasses of the instant claims and because they have equivalent strain points (which are compositionally dependent properties in much the same way as interdiffusion coefficients), the glasses would necessarily have interdiffusion coefficients at the temperature that would meet the limitations of the instant claim. Thus, all of the limitations of instant claim 55 are met by Forker, and the claim is obvious and not patentably distinct over the prior art of record.

Regarding **claims 56-57**, as discussed above, Forker teaches chemically strengthened glasses meeting the compositional and property limitations of instant claim 56. Forker does not specify the interdiffusion coefficients of the glasses at 400°C and 490°C. However, because the Forker glasses are compositionally and structurally equivalent to the glasses of the instant claims, and because they have equivalent strain points (which are compositionally dependent properties in much the same way as interdiffusion coefficients), the glasses would inherently have interdiffusion coefficients

at the two temperatures that would meet the limitations of the claims. Thus, all of the limitations of instant claims 56-57 are met by the teachings of Forker.

Regarding **claim 58**, as discussed above, Forker teaches a glass having a strain point of 581°C.

Regarding **claim 59**, Forker teaches a chemically strengthened glass that contains Na^+ and/or K^+ ions (see Abstract).

Regarding **claim 60**, as discussed above Forker teaches an exchange depth of 271.78 μm.

Regarding **claim 61**, the Forker glass is a sheet (pane, see column 5, lines 35-43).

Regarding **claim 62**, Forker teaches that the alkali ion-containing glasses are made into panels (panes) having thicknesses of 0.085" and 0.105" (see Table 1). These thicknesses are equivalent to 2.159 mm and 2.667 mm.

Regarding **claim 63**, the panels of glass taught by Forker could function as a doors, and thus a door comprising said glass is taught by the prior art of record.

Allowable Subject Matter

9. Claims 52-54 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record does not teach or suggest a cooker, fire screen, or flue insert according to claim 15, where a door is included in the product comprising glass meeting the limitations of claims 15, 16, 18 or and wherein said glass is positioned inside of said product. Though, as shown above,

the prior art teaches ovens and cookers wherein a door-paned door is used with a glass pane on the inside of the oven, there is not motivation found in the prior art to use the chemically tempered glass of Forker on the inside pane. As exemplified by Craver, the prior art teaches that tempered glasses are used as the *outside* pane where their tempering lends high strength to the door. Because of the known diffusion of tempering ions in chemically tempered glasses at high temperature, there is not motivation to use said glasses inside the oven or cooker, directly next to the heated area. As this is what is called for in instant claims 15, 16, and 18, these claims are allowable subject matter.

Response to Arguments

10. Applicant's arguments filed 03/24/2011 have been fully considered but are not persuasive.

Applicant argues that the instantly claimed glasses differ from those taught by Forker because the Forker glasses would not have the interdiffusion coefficient at 490℃ of the amended claims. To show this supposed distinction, applicant uses the calculated interdiffusion coefficient at a higher temperature from one of the Forker example glasses. This is then used to estimate the interdiffusion activation energy necessary to obtain a interdiffusion coefficient at 490℃ that meets the instant limitations. Applicant contends based on a previously published paper that this estimated activation energy is higher than that of soda-lime silicate glasses, and thus the interdiffusion coefficient must be higher than that instantly claimed. This argument is not persuasive because the activation energy in the cited paper is merely an approximation of the general class of glasses known as "soda-lime silicate". It is not

derived from any experimentation on the glasses taught by Forker, and thus cannot be used to show what the properties of the Forker glasses may or may not be. Further, the glass used by Forker cannot be considered to be a soda-lime silicate glass because it contains only 0.4 wt% CaO, and thus lacks any substantial "lime" component. This further shows that the data in the cited paper is not pertinent to Forker. As applicant's arguments are based on the Affidavit showing the differences between the instantly claimed and Forker glasses, and because said Affidavit relies on an estimated activation energy of a general class of glasses of which the Forker glasses are not a part, the arguments are not persuasive at showing the distinctness of the glasses. Thus, the obvious rejections are maintained - using the equivalent and known glasses of Forker in a door configuration of Craver or Plumat would be obvious to one of ordinary skill in the art.

Conclusion

11. All the pending claims are rejected.

12. Applicant's arguments are not persuasive, and the previously issued grounds of rejection are maintained for pending claims 15-18 and 22-23, 25-31, 33-39, and 41-51. Therefore, **THIS ACTION IS MADE FINAL.**

13. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NOAH S. WIESE whose telephone number is (571)270-3596. The examiner can normally be reached on Monday-Friday, 7:30am-5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JERRY A LORENGO/
Supervisory Patent Examiner, Art Unit 1731

Noah Wiese
2 June 2011
AU 1731